WHAT IS CLAIMED IS:

1. A data transfer apparatus for transferring data between a first network and a second network, said data transfer apparatus comprising:

storage means for storing data separately for each data flow which has been received from said first network and which is to be transferred to said second network;

detection means for detecting the amount of data stored in said storage means, for each data flow; and

control means for controlling said data transferred to said second network in accordance with a detection result provided by said detection means.

2. A data transfer apparatus according to Claim 1, wherein said first network and said second network are a wide area digital network and an IEEE-1394 serial bus, respectively.

3. A data transfer apparatus according to Claim 1, wherein said control means starts reading said data from said storage means after the amount of data stored in said storage means has become equal to or greater than a predetermined threshold value.

4. A data transfer apparatus according to Claim 1, wherein when the amount of data stored in said storage means has become equal to or greater than a predetermined threshold value, said control means discards dummy data included in said data stored in said storage means.

5. A data transfer apparatus according to Claim 1, wherein when the amount of data stored in said storage means has become equal to or greater than a predetermined threshold value, said control means inserts dummy data into said data to be transferred to said second network.

6. A data transfer apparatus according to Claim 1, wherein when said control means discards dummy data from said data stored in said storage means or inserts dummy data into the data to be transferred to said second network, said control means gradually corrects a deviation of a time stamp included in said data over a predetermined period.

7. A data transfer apparatus according to Claim 6, wherein said control means inserts or discards said dummy data at a substantially middle point of said period during which the time stamp is corrected.

8. A data transfer apparatus according to Claim 1,

wherein said first network is connected to another first network which is not synchronous in terms of a network clock with the former first network.

9. A data transfer apparatus according to Claim 1, wherein said data is video data or audio data including a temporally continuous content.

10. A data transfer method for transferring data between a first network and a second network, said method comprising the steps of:

controlling the operation of storing data separately for each data flow which has been received from said first network and which is to be transferred to said second network;

detecting the amount of data stored in said storage control step, for each data flow; and

controlling the operation of transferring said data to said second network in accordance with a detection result obtained in said detection step.

11. A storage medium on which a computer-readable program for controlling a data transfer apparatus for transferring data between a first network and a second network is stored, said program comprising the steps of:

controlling the operation of storing data separately for each data flow which has been received from said first network and which is to be transferred to said second network;

detecting the amount of data stored in said storage control step, for each data flow; and

controlling the operation of transferring said data to said second network in accordance with a detection result obtained in said detection step.